

SERUM TIMES

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SERUM MEDICAL BULLETIN

From the desk of the Editor-in-Chief

Dear Doctors / Readers,

We are happy to mention that Serum Times (ST) has completed five years of its journey in the last issue of March 2021. Except a few months in the COVID-19 lockdown phase, we have tried to publish it uninterruptedly. We tried to publish the issues of ST on time every month. Our choice of subject matters based on various clinical interests of the medical experts as well as the common readers. But ultimately the readers are the best judges of any publication.



You are aware of the fact that in different parts of the country the COVID 19 cases are rising again. Observers have been talking of a second wave of the virus as it had already happened in different parts of the world, particularly in Europe. We should not be panicked but at the same time everybody should take adequate precautions and maintain common guidelines of the government about our protection. Use of mask properly, maintain physical distancing, sanitization of hands, etc. are some of the common guidelines to be followed. Hope we will be able to stay safe in future.

In this issue we are going to discuss RNA and DNA vaccination. It is a new subject for many. Actually this has been a matter of discussion in this pandemic period. The DNA and RNA vaccines have the same purpose as traditional vaccines. But they work slightly differently. What is the difference between traditional and DNA and RNA virus vaccines? It is known that in the traditional vaccines weakened form of a virus or bacteria is injected into a body to enhance immunity in the body. Whereas DNA and RNA vaccines use part of the viruses own genetic code to stimulate an immune response. The use of DNA and RNA vaccines is new. An mRNA vaccine for COVID-19 co-developed by Pfizer and BioNTech is the first of its kind authorised for emergency use in the United States of America. One can know more about the some other matters of the new vaccination. The matter is discussed in more details in the next article.

With best wishes and a hope of maintaining good health and a very happy Bengali New Year to all!

With regards,

Sanjib Acharya

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RNA and DNA vaccines to fight Covid

Some of the information found in various sources are important to have the idea. First, the DNA and RNA vaccines are being touted for their cost effectiveness and ability to be developed more quickly than traditional, protein vaccines. Traditional vaccines often rely on actual viruses or viral proteins grown in eggs or cells, and can take years and years to develop. DNA and RNA vaccines, on the other hand, can theoretically be made more readily available because they rely on genetic code and not on a live virus or bacteria. This also makes them cheaper to produce.

Secondly, advantage over protein vaccines, in principle, is that if you know what protein one wants to end up expressing in the body, it's very easy to synthesize a messenger RNA and then inject it into people. Moreover, proteins are a little more finicky as molecules, whereas the nucleic acid [DNA and RNA] is a much simpler structure.

Some Risks

First, with any health advancement there has been some potential risks. With a DNA vaccine, there is always a risk it can cause a permanent change to the cell's natural DNA sequence. Secondly, usually, there are ways in which DNA vaccines are made that try to minimize this risk, but it's a potential risk. Instead, if one injects mRNA, it cannot get integrated into the genetic material of a cell. It is also ready to be translated into protein. Thirdly, as no DNA vaccine is currently approved for human use, there is still much to learn about their effectiveness. With two mRNA vaccines in phase III trials and



one approved for emergency use, they are much closer to full approval and licensing by the FDA.

Difference between RNA and DNA vaccine

DNA and RNA vaccines work the same way as each other, but have some differences. With a DNA vaccine, the virus' genetic information is transmitted to another molecule that is called the messenger RNA (mRNA). This means with an RNA or mRNA vaccine, you are one step ahead of a DNA vaccine.

Another difference between a DNA and RNA vaccine is that a DNA vaccine delivers the message via a small electrical pulse, which literally pushes the message into the cell.

An advantage of this vaccine is that it is very stable at higher temperatures, on the other hand, a disadvantage is that it requires a special device that provides the electrical pulse. It is also known that it looks like both DNA and RNA vaccines that induce similar immune responses. But since both are under clinical trials, we still have a lot to learn from them.

Eating fried food increases risk of heart disease and stroke

Most of the people will agree that the fried food are delicious but are truly deadly. In spite of that most of the people are fond of fried food. An estimate will clarify the truth behind this. A research team reportedly found (January 20, 2021, Heart) that the risk rises with each additional 4-ounce serving per week.

Method of Investigation

The study has been done by Pei Qin of Shenzhen University Health Science Center in Guangdong, China and his colleagues. It is known that the investigators analyzed 19 previously published studies. They combined data from 17 studies. These involve more than 5,60,000 people with nearly 37,000 major cardiovascular events. That includes diseases like heart attack or stroke. Later the researchers also used data from six studies, involving more than 7,50,000 participants and nearly 86,000 deaths over an average of 10 years.

The Observation of the Study

The study findings showed that compared with those who ate the lowest amount of fried food per week, those who ate the most had a 28% greater risk of major cardiovascular events, a 22% higher risk of heart disease and a 37% higher risk of heart failure.

These risks substantially increased by 3%, 2% and 12%, respectively, with each additional 4-ounce weekly serving, according to Pei Qin and his colleagues. The report was published online January 19 in



the journal Heart.

Analysis of the findings of the study

How fried foods might increase the development of cardiovascular disease isn't clear, but several explanations are possible. The main elements those are responsible for heart diseases are fried food items. This is because fried foods contain harmful trans fatty acids from the hydrogenated vegetable oils. The oils are often used to cook them. Moreover, frying also increases the production of chemical by-products involved in an inflammatory response. In addition, foods high in salt, such as fried chicken and French fries, are often served with sugar-sweetened drinks, particularly in fast-food restaurants, the researchers reportedly said.

SERUM's Corporate Social Responsibility (CSR)



Mar 14: Sanjib Acharya, MD, SERUM Group present at Shymnagar Football Festival 2021



Mar 14: Sanjib Acharya felicitated at Belgachia Crown Sports Club



Mar 14: Health Check-up camp in association with Nimtala Sarbojanin Durgotsav Committee



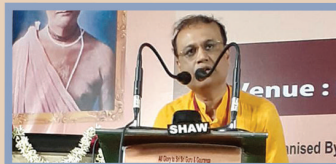
Mar 13: Shri Sanjib Acharya, present as the guest of honour at Debangan Chowdhury Memorial Cricket Tournament organised by Santoshpur Trikon Park Durgotsab Committee



Mar 8: SERUM Group felicitated women from all walks of life on International Womens' Day at SERUM Auditorium.



Mar 1: Sri Sanjib Acharya inaugurated the pathological clinic at Serampore



Mar 4: Sri Sanjib Acharya was at the International Seminar on Sri Chaitanya Janmotsava & Mela held at Bagbazar Sarbojanin Durgotsav Ground organized by Gaudiya Mission



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